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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,497	03/04/2002	Fatih M. Ozluturk	I-2-0115.3US	7698

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EXAMINER

ELALLAM, AHMED

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,497

Applicant(s)

OZLUTURK ET AL.

Examiner

AHMED ELALLAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 9 and 10 are objected to because of the following informalities:

In claims 9 and 10, the phrases "the calculated power level" lacks antecedent basis.

Appropriate correction is required.

Information Disclosure Statement

2. The information disclosure statement filed March 04, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

In this instant case: copies WO 9918686 and EP 0751630 A have not been received.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is recited "means for measuring a characteristic of the output of said combining means" and "means for adaptively limiting an output of the combining means". It is referred to the output means twice, however it is not clear if the combining means have more than one output. A distinction between the "outputs" is lacking.

Claims 2-13 depend from claim 1, thus they are subject to the same rejection.

Regarding claim 13, in addition to the remarks above, it is not clear what "said output" it is referred to, because in the base claim 1, reference is made to three outputs: "the output of said combining means", "an output of the combining means" and "an output of said measuring means", therefore the meaning of the claimed "said output" is indefinite.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-3 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 and 3 of U.S. Patent No. 6,434,135. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 1, the difference between claim 1 of the instant Application and claim 1 of the patent is the eliminated limitation of the modulating means, and the change of term "average power" to the term "characteristic".

It would have been obvious to an ordinary person of skill in the art, at the time the invention was made to eliminate the modulating means limitation and change the "average power" to a broader term such as "characteristic" so that the apparatus can be applied to control other variables other than the amplifier power.

Regarding claim 2 and 3, claims 2 and 3 have substantially the same scope of claim 3 of the patent, and therefore they are subject to similar rejections as in claim 1.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang, US (6,504,862).

Regarding claim 1, with reference to figure 5 and 6, Yang discloses a transmitter for transmitting signals employing a CDMA technique, comprising:

Combiner 272 for combining a plurality of CDMA signals, (claimed means for combining a plurality of spread spectrum data signals),

An error shaped intermediate frequency clipper 250, comprising;

Clipping level calculation circuit 318 that generates a signal representing the root-means-square power of the composite CDMA signal. See column 13, lines 1-30 and figure 8. (Claimed means for measuring a characteristic of the output of the combining means for a given time period);

A hard clipper in combination with means 324, shaping filter, means 350 and band-pass filter 358 for producing a filtered error-shaped clipped signal, see column 12, lines 47-57. (Claimed means for adaptively limiting an output of the combining means responsive at least partially to an output of the measuring means).

Regarding claim 5, Yang discloses with reference to figure 8, an RMS (root-means-square) power detector 382 included in the clipping level calculation circuit 318 (claimed measuring means) that determine an average of the power level of the

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composite signal. (Claimed measuring means determines an average of a square of the output, and wherein the adaptive limiting means limits the output to a given power level based in part on the average of the square of said output). See column 13, lines 11-18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Rha, US (6,188,732).

Regarding claims 2 and 3, in addition to the disclosed limitations of claim 1 above, Yang also discloses an analogue radio frequency processor 280 for up-converting the received clipped output to a radio frequency signal. (Claimed means for modulating the output of the combining means to produce an RF signal).

Yang does not disclose that the measuring means measures an output of the modulating means (as in claim 2 and amplification means as in claim 3).

However, with reference to figure 5, Rha discloses in the same field of endeavor a RF (Radio Frequency) coupler (coupler means) that receive the output of power amplifier 520 (also reads on output of modulating means since the output of the modulator 515 is fed to the amplifier 520) and generates a "characterization" signal for

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gain and phase adjustment (means 580 and 582) that are used in providing the dynamic range of the transmitter amplifier of composite signals. See column 10, lines 58-67 and column 11, lines 1-6 and lines 16-33. Examiner interpreted the means of Rha as being the claimed means at the output of the modulating means).

Therefore, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to have the measuring means of Yang (clipping level calculation circuit 318) receiving the clipped composite signal after being modulated and amplified as taught by Rha so that the clipping level can be determined in dependence of all the necessary processing of the composite signal required for transmitting the signal. The skilled person would be motivated to do so because of the feedback easy implementation architecture. The advantage would be less distorted and erroneous composite signal determination right before transmission, which result in higher bandwidth and better signal quality.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over yang in view of Antonio et al, US 6,603,745).

Regarding claim 4, Yang discloses with reference to figure 8, an RMS (root-means-square) power detector 382 included in the clipping level calculation circuit 318 (claimed measuring means) that determine an average of the power level of the composite signal to be used in limiting the output power.

The difference between the Applicant and the teaching of Yang is that the measuring means of Applicant determine a variance and uses an approximation of the variance in limiting the power output.

However, with reference to figures 3 and 4, Antonio discloses detection unit for determining a variance and using the determined variance in limiting the power output. See column 10, lines 12-54. (Examiner interpreted the claimed approximation of the variance as being the variance, since the variance is related to an average value, and thus represents an approximation value of power measurements of the received signals).

Therefore, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to have the calculation circuit of Yang implementing the variance calculation as taught by Antonio in generating the representative received composite signal. A person of skill would do so as part of design choice, since the representative value can be determined in a variety of ways and equally accomplishing the intended function of controlling the power levels in transmitting the signals.

9. Claims 6, 7, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang.

Regarding claim 6, Yang discloses the clipping level calculation circuit 318 that generates a signal representing the root-means-square power of the composite CDMA signal (claimed measuring means). See column 13, lines 1-30 and figure 8.

While yang discloses a root-means-square calculation for generating a value in the limiting transmission power, he does not specify that the calculation can be an average of an absolute value.

However, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to have the root-mean-square calculation changed to an average absolute value as a design choice, since the representative value can be determined in a variety of ways and equally accomplishing the intended function of controlling the power levels in transmitting the signals. Furthermore, Applicant stated that the measured characteristic of the composite signal can be determined in different way, such as average square of signal magnitude or variance, etc...see specification, paragraph [0035].

Regarding claim 7, Yang discloses a clipping level calculation circuit 318 that generates a signal representing the root-means-square power of the composite CDMA signal (claimed measuring means). See column 13, lines 1-30 and figure 8. (Claimed processing means), (Yang's clipper is being interpreted as the claimed processing means, since it processes the received signal into a root-means-square power representative signal). However, Yang does not disclose that the clipping level calculation circuit determines the magnitude of the composite CDMA signal (claimed output) and determining a variance of the output based on the determined magnitude of the output.

However, it would it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to have the root-mean-square calculation

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changed to a magnitude based variance as a design choice, since the representative value can be determined in a variety of ways and equally accomplishing the intended function of controlling the power levels in transmitting the signals. Furthermore, Applicant stated that the measured characteristic of the composite signal can be determined in different way, such as average square of signal magnitude or variance based magnitude, etc...see specification, paragraph [0035].

Regarding claim 8, Yang discloses a clipping level calculation circuit 318 that generates a signal representing the root-means-square power of the composite CDMA signal (claimed measuring means). See column 13, lines 1-30 and figure 8. (Claimed processing means), (Yang's clipper is being interpreted as the claimed processing means, since it processes the received signal into a root-means-square power representative signal). However, Yang does not disclose that the clipping level calculation circuit can be used to determine a standard deviation of the composite CDMA signal (claimed output).

However, it would it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to have the root-mean-square calculation changed to a standard deviation as a design choice, since a representative value characterizing the composite signal can be determined in a variety of ways and equally accomplishing the intended function of controlling the power levels in transmitting the signals. Furthermore, Applicant stated that the measured characteristic of the composite signal can be determined in different way, such as average square of signal magnitude or standard deviation of the composite output, etc...see specification, paragraph [0035].

Regarding claim 11, Yang does not disclose disabling power adaptation when the number of user is low. (Claimed processing mean disables said adaptive limiting means when a number of active users reach a given value).

However, Examiner takes official notice, because it is well known in the art that when the number of subscribers is low, less power is need in the amplifier, the amplifier hence work within the dynamic range, and there is no need for clipping since the signals can be transmitted without distortion. Since official notice is taken, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to provide the Yang transmission apparatus with the known amplifier dynamic range implementation methods so that higher performance can be accomplished with varied number of subscribers, and bypassing the clipping process in case of lower number of subscribers, resulting in less power consumption at the transmitter of Yang.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Shen et al, US (6,118,767).

Regarding claim 9 and 10, Yang discloses substantially all the limitations of the parent claim 8, except it does not disclose using a standard deviation (instead of root-mean-square) to limit the output power level, wherein the power level is twice as great as the standard deviation (claim 9) or equal to the standard deviation (claim 10).

However, Shen discloses in the same field of endeavor using power level in accordance with predetermined multiples of a standard deviation in adjusting the output power. See column 11, lines 54-67 and column 12, lines 1-12. (Claimed wherein the

power level is twice as great as the standard deviation (claim 9) or equal to the standard deviation (claim 10)).

Therefore, it would it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to implement output power adjustment in Yang's clipper apparatus using compared measured power values to the multiples of the standard deviations as taught by Shen so that power adjustment can be made in light of the number of users in the network and the level of interferences present. The advantage would be adjusting the power level in the transmitter of Yang in a way that prevent excess power utilization, while providing the best available channel conditions in fair manner to all active subscribers.

Allowable Subject Matter

11. Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

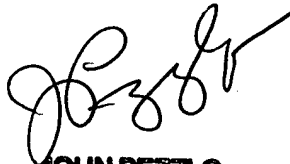
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Engstrom et al, US (6,639,934); Frank et al, US (6,636,555); Creighton, US (6,529,560); Kim et al, US (6,473,415); Santa et al, US (6,256,502); Hedberg et al, US (6,266,320); McGowan et al, US (6,236,864) and Laird et al, US (5,991,262).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (703) 308-6069. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
August 5, 2004



JOHN PEZZLO
PRIMARY EXAMINER